

Remarks

Reconsideration of this Application is respectfully requested.

Upon entry of the foregoing amendment, claims 4, 13, 14 and 17-23 are pending in the application, with claims 4 and 19 being the independent claims. Claims 1-3, 5-12, and 15-16 were previously cancelled. Claims 13 and 14 were withdrawn from consideration by the Examiner. New claims 19-23 are sought to be entered. These changes are believed to introduce no new matter, and their entry is respectfully requested.

Prothioconazole is sought to be stricken from claim 4. Claims 19-23 recite a composition of carboxamide (1-1) and (3-15) prothioconazole in a ratio of 10:1 to 1:20. This ratio is recited in the English language translation of the as-filed specification at page 70, Table 21, column 3, row 4.

Based on the following remarks, Applicants respectfully request that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

I. Rejections under 35 U.S.C. § 103

Claims 4 and 17 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over DE 102 15 292 to Dunkel *et al.* ("Dunkel"). Applicants respectfully traverse the rejection.

A. A Prima Facie Case of Obviousness Has Not Been Established

Dunkel discloses pyrazolyl carboxamide derivatives useful as fungicides and bactericides for the protection of plants. Dunkel discloses the carboxamide 1-1, but only generally discloses combinations of carboxamide 1-1 with other mixing components

such as known fungicides, bactericides, acaricides, nematocides or insecticides. (Canadian equivalent of Dunkel, CA 2476462 A1, p. 26, lines 19-20.) Dunkel recites several thousand possible combinations of the carboxamide 1-1 with other mixing components. However, Dunkel does not disclose any particular combinations of carboxamide 1-1 with other active compounds. Dunkel also does not disclose or provide a reason to combine the claimed fungicidal mixing partners with a carboxamide compound of formula 1-1.

However, according to the Examiner,

Dunkel *et. al.* teaches that N-(3',4'-dichloro-5-fluoro-1,1-biphenyl-2-yl)-3-(difluoromethyl)-1-methyl-1H-pyrazole-4-carboxamide is an effective agent for protecting crops from many different microorganisms, and that N-(3',4'-dichloro-5-fluoro-1,1-biphenyl-2-yl)-3-(difluoromethyl)-1-methyl-1H-pyrazole-4-carboxamide can be mixed together with other fungicidal agents such as propiconazole, epoxiconazole, prothioconazole, tebuconazole, and bitertanol to provide a synergistic effect. As such, it would have been *prima facie* obvious to one of ordinary skill in the art, at the time of the invention, to combine N-(3',4'-dichloro-5-fluoro-1,1-biphenyl-2-yl)-3-(difluoromethyl)-1-methyl-1H-pyrazole-4-carboxamide with the claimed triazoles to obtain a synergistic composition to protect crops from pests, fungi, and many other microorganisms.

(Office Action, page 7). The Examiner further claims that "it would have been considered routine for one of ordinary skill in the art to determine optimum weight ratio ranges of N-(3',4'-dichloro-5-fluoro-1,1-biphenyl-2-yl)-3-(difluoromethyl)-1-methyl-1H-pyrazole-4-carboxamide to triazole compounds for an enhanced pesticidal and fungicidal effect." (Office Action, p. 8). Applicants respectfully disagree and submit that the Examiner is using impermissible hindsight and has reconstructed the claimed invention based solely on the Applicant's disclosures.

Dunkel does not provide a person of ordinary skill in the art any reason to have selected the specifically claimed triazole compounds to combine with the carboxamide 1-1. The Examiner admits that Dunkel *et. al.* does not explicitly teach the recited combinations in a ratio of 20:1 to 1:20. (Office Action, p. 3). Therefore, one skilled in the art would not have found propiconazole, epoxiconazole, prothioconazole, tebuconazole, and bitertanol by picking and choosing from Dunkel's laundry list of secondary mixing partners, and one skilled in the art would not have had an expectation of synergistic effect in the presently claimed combinations.

Applicants are aware of the flexible approach for establishing obviousness set out in *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398 (2007). However, as cautioned by Judge Rader in a post-KSR decision in *In re Kubin*, 561 F.3d 1351 (Fed. Cir. 2009), "where a defendant merely throws metaphorical darts at a board filled with combinatorial prior art possibilities, courts should not succumb to hindsight claims of obviousness." (561 F.3d at 1359.) Applicants submit that in rendering the rejection, the Examiner is improperly picking and choosing the claimed compounds from among the thousands of combinations disclosed by Dunkel.

As demonstrated by the data in the captioned specification, carboxamide 1-1, when combined with the claimed fungicides, greatly enhances the fungicidal effect of carboxamide 1-1. Such a synergy between carboxamide 1-1 and claimed fungicides would not have been expected or obtained "through routine experimentation" of Dunkel's combinations.

Accordingly, for at least the reasons discussed above, claims 4 and 17 are not *prima facie* obvious over Dunkel. Withdrawal of the rejection is respectfully requested.

B. Synergistic Effect

Even assuming that a *prima facie* case of obviousness has been established, which it has not, the synergistic effect exhibited by the claimed combination is sufficient to overcome any *prima facie* case of obviousness.

As detailed in Applicants' Replies dated March 13, 2009, and April 30, 2010, the data on pages 79, 80 and 83-88 of the as-filed specification show that the claimed combinations have a synergistic fungicidal effect when applied to different crop plants. For example, in Example A on page 79 of the specification, a combination of compounds 1-1 and 3-17 (tebuconazole) is applied to young plants treated with a conidia suspension of *Pyrenophora teres*. The efficacy of control of infection using compound 1-1 alone or compound 3-15 alone are 43% and 29%, respectively. However, the efficacy of the combination, 71%, is much greater than the combined efficacy of each individual component, and the efficacy calculated using the Colby formula. Similar synergistic results for combinations of compound 1-1 with claimed azole compounds are demonstrated in Examples A and D-F on pages 79 and 83-88 of the specification.

In addition to the data provided in the as-filed specification, Applicants provide Declarations under 37 C.F.R. § 1.132 of Peter Dahmen ("the Dahmen Declaration") as Exhibit A and of Ulrike Wachendorff-Neumann ("the Wachendorff-Neumann Declaration") as Exhibit B.

According to the Dahmen Declaration, paragraph 12, entitled "Example: Septoria tritici-test (wheat) / preventative," preparations of compounds (1-1), (3-15), (3-17) and combinations thereof were sprayed onto young wheat plants and the plants dried.

Afterward, the plants were sprayed with a spore suspension of *Septoria tritici* and then placed in an incubation cabinet. After transferring to a greenhouse, the plants were evaluated 21 days after inoculation.

According to the Table provided in paragraph 12, a combination of compounds (1-1) and (3-15) at a 1:10 ratio provided a synergistic effect compared to the single compounds. A combination of compounds (1-1) and (3-17) at a 1:10 ratio provided a synergistic effect compared to the single compounds.

According to the Wachendorff-Neumann Declaration, paragraph 12, entitled "Example: Venturia-test (apples) / preventative," preparations of compounds (1-1), (3-15), (3-17) and combinations thereof were sprayed onto young apple plants and the plants dried. Afterward, the plants were sprayed with an aqueous conidial suspension of apple scab (*Venturia inaequalis*) and placed in an incubation cabinet. After transferring to a greenhouse, the plants were evaluated 10 days after inoculation.

According to the Table provided in paragraph 13, combinations of compounds (1-1) and (3-15) at ratios of 1:10 and 1:5 provided synergistic effects compared to the single compounds. Combinations of compounds (1-1) and (3-17) at ratios of 1:10 and 1:5 provided synergistic effects compared to the single compounds.

From the data in the specification and the enclosed declarations there is a showing of synergism at various weight ratios across the claimed range as recited in Claim 4 and 18. While the Examiner acknowledges that the specification shows synergy of the claimed combinations at a weight ratio of 1:1 (Office Action, page 4), the data in the declarations provides further support for the claimed range.

For the reasons set forth above, Applicants respectfully request that the Examiner consider the evidence of unexpected effects presented in the specification, the Dahmen Declaration and the Wachendorff-Neumann Declaration and that the rejection be withdrawn.

II. Objections to the Claims.

"Claim 18 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form, including all of the limitations of the base claim and any intervening claims." (Office Action, page 8).

Applicants respectfully acknowledge the allowability of claim 18 if so rewritten. Applicants respectfully request that the objection be withdrawn as the base claim is in allowable form.

Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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